CLAIMS

1. A measurement system comprising:

a first log amp, and

a second log amp.

A measurement system according to claim 1 further comprising a differencing circuit coupled to the first and second log amps.

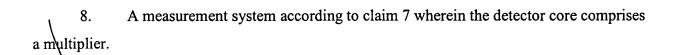
3. Ameasurement system according to claim 2 wherein:

the first log amp has a first logarithmic output coupled a first input to the differencing circuit; and

the second log amp has a second logarithmic output coupled to a second input to the differencing circuit.

- 4. A measurement system according to claim 3 wherein the differencing circuit comprises a summing node.
- 5. A measurement system according to claim 2 further comprising an output interface circuit coupled to the differencing circuit.
- 6. A measurement system according to claim 2 further comprising a phase detector core coupled to the first and second log amps.
- 7. A measurement system according to claim 6 wherein:
 the first log amp has a first limiting output coupled to a first input of the phase detector core; and

the second log amp has a second limiting output coupled to a second input of the phase detector core.



A measurement system according to claim 6 further comprising an output interface circuit coupled to the phase detector core.

- 10. A measurement system according to claim 1 wherein the first and second log amps are co-integrated on a substrate. (5702559, whiz, 25-30) -> (4131254, 663, 59-55)
- 11. A measurement system according to claim 10 wherein the first and second log amps are arranged symmetrically about a center line. 4538105 (the 4) 30-35)
- 12. A measurement system circuit according to claim 10 wherein the substrate is mounted in a package. (585,632, ols, 15-62)
 - 13. A measurement system according to claim 12 further comprising:
 a first parasitic network coupled to the first log amp; and
 a second parasitic network coupled to the second log amp;
 wherein the first and second parasitic networks have similar frequency responses.
- 14. A measurement system according to claim 2 further comprising a third log amp coupled to the differencing circuit.
- additional log amps coupled to the differencing circuit.
 - 16. A measurement system comprising:

 a first log amp having a first limiting output;

 a second log amp having a second limiting output; and

a phase detector core coupled to the first and second log amps to receive the first and second limiting outputs.

A measurement system according to claim 16 wherein the phase detector core comprises a multiplier.

- 18. A measurement system according to claim 16 wherein the first and second log amps are co-integrated on a substrate.
 - 19. An integrated circuit comprising two or more log amps. (4,131,254, w. 50-15)
- 20. An integrated circuit according to claim 19 further comprising a differencing circuit coupled to the two or more log amps.
- 21. An integrated circuit according to claim 19 further comprising a phase detector core coupled to the two or more log amps. (50%, 610, 7), 47-37)
- logarithmically amplifying a first input signal, thereby generating a first output signal; logarithmically amplifying a second input signal, thereby generating a second output signal; and differentially processing the first and second output signals.
- 23. A method according to claim 22 wherein:
 the first and second output signals are logarithmic output signals; and
 differentially processing the first and second output signals comprises differencing the
 first and second output signals.
- 24. A method according to claim 22 wherein:
 the first and second output signals are limiting output signals; and
 differentially processing the first and second output signals comprises multiplying the
 first and second output signals.

- A method according to claim 22 further comprising: utilizing a signal to be examined as the first input signal; and utilizing a reference signal as the second input signal.
- A method according to claim 25 wherein the reference signal has the same 26. waveform as the signal to be examined.
 - 27. A method according to claim 22 further comprising: utilizing a modulated signal for the first input signal; and utilizing a modulation signal for the second input signal.

12